St. Bartholomew's Hospital Journal.

"Æquam memento rebus in arduis
Servare mentem."
— *Horace*, Book ii, Ode iii.

VOL. XLI.—No. 12.] SEPTEMBER 1ST, 1934. PRICE NINEPENCE.

CALENDAR.

Tues., Sept. 4.—Prof. Fraser and Prof. Gask on duty.

Fri., ,, 7.—Lord Horder and Sir Charles Gordon-Watson on duty.

Tues., ,, 11.—Dr. Hinds Howell and Mr. Harold Wilson on duty.

Fri., ,, 14.—Dr. Gow and Mr. Girling Ball on duty.

Tues., ,, 18.—Dr. Graham and Mr. Roberts on duty.

Thurs., ,, 20.—**Last day for receiving matter for the October issue of the Journal.**

Fri., ,, 21.—Prof. Fraser and Prof. Gask on duty.

Tues., ,, 25.—Lord Horder and Sir Charles Gordon-Watson on duty.

Fri., ,, 28.—Dr. Hinds Howell and Mr. Harold Wilson on duty.

Sat., ,, 29.—Rugby Match *v.* Old Leysians. Home.

EDITORIAL.

THE incidence of a holiday makes the preparation of a suitable preamble for the last Journal of the Hospital year an unwelcome task. The sea and the mountains and the thunder of a tent flapping in the gale are unhappy henchmen of the Muse when the mind seeks to turn back to Hospital business and politics.

An effort to test the proverb, "the nicht is the mither of thoughts", only resulted in a shamefaced and violent reveille in the small hours, the manuscript covered by the cold corpse of a dead candle.

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It was once the custom to include in the September issue a retrospect of the past year's events. Latterly the duty has been usurped by the Editor on account of the barrenness of the month that is gone. *Il n'y a point de dimanches et de fêtes en l'août*, and he must needs manufacture a topic for a quite unnecessary paragraph. We, however, derive no pleasure from the resurrection of events in a year more or less uneventful in the Hospital's history and, in any case, it is tedious to physic the dead. Even had the wish been present, circumstances would have prohibited, for here there are no past numbers to instruct us and no diaries to be brought into use, for we agree heartily with Mark Twain that "only those rare natures that are made up of pluck, endurance, devotion to duty for duty's sake, and invincible determination, may hope to venture upon so tremendous an enterprise as the keeping of a journal and not sustain a shameful defeat". We leave the past year to join the others, close Volume Forty-one of the Journal and call *Salve!* to the next.

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The successive heat-waves have exposed the deficiencies in the cooling apparatus of the new surgical wards. Even the skill of Sister in moving her single fan in the orbit of the Senior Surgeon on a hot full-day has availed nothing. Waring Ward has been equipped temporarily with three huge fans suspended from the roof in one half of the ward. Hideous at present with their gallows-like supports, they would never be anything but unsightly even if their value was proved.

The failure of the weather to exhibit pyrexia since their installation has made a true test difficult, but opinion seems agreed that they are unsuitable. Their effect has been to produce a wintry gale and a chorus of protests from the patients.

It seems odd that in a period of exceptional drought a long-wanted protection from the rain should have been devised for the comfort of the out-patient queues.

In the Giltspur Street entrance to the Hospital a glass covering has been constructed round three sides of the court. We hope to see some similar solution for those unfortunates that have to be trundled across the Square in a downpour on their way to the specialist departments. At present an expensive subway seems to be the only elegant method.

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Prof. Langdon Brown, Regius Professor of Physic at the University of Cambridge, has been appointed Senior Censor of the Examining Board by the Royal College of Physicians.

* * *

The same body has also appointed Sir Henry Hallett Dale, C.B.E., as the Harveian Orator for 1935, and Sir Bernard Spilsbury as Croonian Lecturer for 1936.

* * *

It is with a great shock that we hear, as we go to press, of the tragic death of T. H. Moxon. He was spending his holidays at Wimereux when he was drowned while bathing.

He was born on October 22nd, 1908, and was educated at Berkhamsted School. He entered St. Bartholomew's in January, 1931, and very soon interested himself in the affairs of the Hospital. The most uninteresting and thankless tasks were undertaken by him in the calm, cheerful spirit that was always characteristic of him. He was one of those the loss of whom means a great deal to any community.

Our sincere sympathy is extended to his bereaved.

* * *

Much progress has been made in the new buildings for the University of London at Bloomsbury. The site occupies over ten acres behind the British Museum. The part at present under construction will accommodate the Senate House, the Library, the Administrative Block and the Institute of Education. These will cover about two-fifths of the site and will be completed within four years.

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OBITUARY.

P. W. JAMES, M.C., M.D.

ALL ranks of the 2nd Battalion of the Seaforth Highlanders who served in the South African War, and all who served in the same battalion in the Great War, will have heard with deep regret of the death of Dr. P. W. James, of Friends' Road, Croydon.

"Jimmy," as he was affectionately known, had the splendid, if not unique, record of having served as medical officer to the same battalion, on active service, in two wars, although a doctor in private practice. That battalion was the 2nd Seaforth Highlanders, and no unit was ever more fortunate in their medical officer, or in more skilful and devoted hands. After serving through the South African War he returned to private work, but at the outbreak of the Great War he immediately offered his services again, and applied to return to the regiment he knew so well. His wish was fulfilled, and he rejoined as Medical Officer to the 2nd Battalion on the Aisne in September, 1914. He carried out his duties with the utmost gallantry and devotion to duty, which earned him not only a very richly deserved M.C., but the deep affection of both officers and men. He was always the same—undaunted, calm and cheerful under the most trying conditions imaginable.

In the first German gas attack in the spring of 1915 he was very severely gassed, from the effects of which he never recovered. He returned to private practice, but in later years his health grew steadily worse. The event of the year he looked forward to more than anything else was attending the Regimental Dinner of the Seaforth Highlanders. This year he was too ill to attend, and within a month he was dead.

He was laid to rest in Shirley Churchyard near Croydon on July 10th, while a piper of the Seaforth Highlanders played "The Flowers of the Forest" beside his grave, in affectionate farewell.

A SEAFORTH OFFICER

THE CONGENITAL SHORT ŒSOPHAGUS.

"The stomach is originally almost cervical in situation; but as the pleural diverticula expand and the diaphragm descends, the œsophagus becomes elongated, and thus the stomach also descends, maintaining all the way a sub-diaphragmatic position. If, however, the œsophagus does not elongate, the descent of the stomach is arrested, and thus we find it placed within the posterior mediastinum surrounded by its sac of peritoneum."—[Keith (1)].

FAILURE of the œsophagus to grow to its proper length has been recognized by anatomists for nearly 100 years, but it does not seem to have occurred to them that either the short œsophagus, or the abnormality of the stomach which is of necessity associated with it, could be matters of clinical importance. Recently, however, clinicians have realized that such a short œsophagus may be abnormal in function as well as in structure; and that symptoms may be produced by the distension of the portion of the stomach which has never descended below the diaphragm, and by the entry of abdominal viscera into the peritoneal sac which is almost always present around the thoracic portion of the stomach—a form of diaphragmatic hernia.

Rarely the œsophagus is extremely short, but in most cases it ends at a level between the sixth and eighth dorsal vertebræ. Here the tube is considerably narrowed, and then widens out again before reaching the diaphragm. This wider portion, though at first sight appearing to be the lower end of the œsophagus, is in reality a portion of the cardiac end of the stomach. More careful study even by the naked eye will establish the difference in colour, texture and folding of the mucous membrane above and below the narrowed portion, and histologically the mucous membrane below the narrowing but above the diaphragm is found to be gastric.

A married woman, æt. 64, was admitted to Lawrence Ward on July 16th, 1934, because of inability to swallow. She had been warded on the Medical Side in March, 1934, when a tentative diagnosis of carcinoma of the œsophagus was made, and a course of deep X-ray therapy was given. X-ray examination in March had revealed an obstruction in the œsophagus at the level of the eighth dorsal vertebra (Fig. 1), but the œsophageal lumen above the constriction appeared quite regular and smooth, and was not much dilated, and it was therefore suggested that the obstruction might be due to spasm. Œsophagoscopy failed to provide evidence of carcinoma, and the Wassermann reaction was negative.

On July 16th a mouthful of barium emulsion was completely arrested at the stricture, though the œsophageal wall above still showed no indication that the obstruction was due to malignant disease. Gastrostomy was performed at once, an unusual feature being the low position of the stomach in the abdominal cavity. Three days later she was able to swallow a little water, and a week after the operation she was able to take about a pint of fluid daily by the mouth. This quantity was subsequently steadily increased, till it became possible to repeat the barium X-ray examination.

Fuller inquiry into her past history elicited the fact that she had suffered from periodical "bilious attacks" since childhood. These

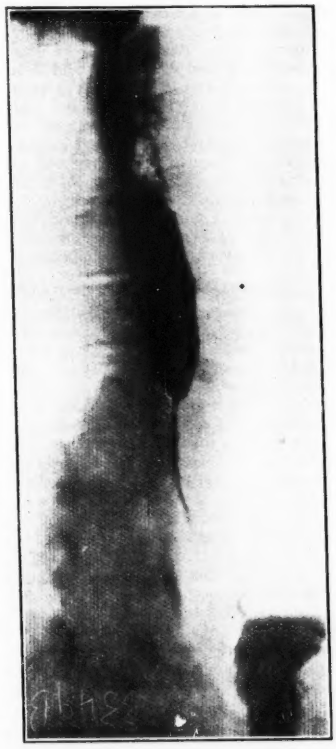

FIG. 1.—SHOWING OBSTRUCTION TO BARIUM AT LEVEL OF EIGHTH DORSAL VERTEBRA—MARCH, 1934.

FIG. 2.—SKIAGRAM TAKEN WITH PATIENT IN TRENDELENBURG POSITION, SHOWING BARIUM WHICH HAS REGURGITATED INTO A POUCH OF STOMACH ABOVE THE DIAPHRAGM—AUGUST, 1934.

attacks, which occurred at intervals of a few months, started with pain in the epigastrium immediately after a meal, the pain being relieved by vomiting bitter fluid. Until the attack passed off she would be unable to keep any fluid down, and in a few of the worst attacks she felt she could not "get down" even water, and had to stay in bed for several days until the attack gradually passed off. When 35 years of age she had been kept in bed for three weeks by "gastric" trouble. Heartburn was a prominent feature, but she did not complain of flatulence. For the past few years she had become increasingly breathless on exertion, though there was no pain in the chest. Cough had been troublesome for many years, especially at night, and if coughing induced vomiting or if she made herself sick the cough ceased. All the symptoms had been greatly aggravated during the past six to twelve months, and she had lost 3 stones in weight.

The X-ray examination of the œsophagus was repeated by Dr. Dudley Stone on August 9th. With the patient standing, thin barium emulsion was seen to pass down to the stricture, which seemed to be about 2 mm. in diameter and 4 mm. in length, a fine stream of barium trickling through it into a wider portion of the alimentary canal between it and the diaphragm. When sufficient barium had reached the stomach, the patient was placed lying on the table, inclined so as to raise the level of the abdomen above the chest, and the barium was seen to flow back into the tube above the diaphragm as far as the lower end of the stricture (Fig. 2). This showed clearly that although there was a second narrowing in the barium shadow at the level of the diaphragm, there was no sphincter at this point, but that the tube between the stricture and the diaphragm was part of the stomach.

The obstruction at the level of the eighth dorsal vertebra was thus shown to be a stricture at the lower end of a congenital short œsophagus, and it was also clear that the stomach was greatly narrowed where it passed through the diaphragm. Dysphagia was caused by the constriction at the lower end of the œsophagus, but the epigastric pain may have been due to distension of the portion of the stomach above the diaphragm. The fact that pain was relieved by vomiting bitter material harmonizes with this view.

Symptoms of the Short Œsophagus.

There seems to be no doubt that this developmental defect may exist throughout life without producing symptoms, for it has been discovered accidentally in the dissecting-room in the bodies of men well over the age of 70, whose history aroused no suspicion that there had been anything amiss.

On the other hand symptoms may be present from birth, and there is a third group in which symptoms appear intermittently at intervals of many years, becoming really troublesome only in middle age. Cases occurring in infancy and childhood have been published with complete X-ray studies by Findlay and Brown-Kelly (2); and a very interesting case in which there was no peritoneal coat over the thoracic portion of the stomach has been published by Jacob, Tweedie and Negus (3).

Vomiting is the most prominent symptom, especially in infants and children. It may be present from birth, thus differing from the vomiting of pyloric stenosis, and a characteristic feature is that it often occurs during a meal. Vomiting is often variable both in frequency and quantity, and may disappear for long intervals, even as long as five years elapsing between attacks.

Dysphagia occurs in sudden attacks with long intervals of freedom, and such a history in adult life distinguishes this condition clearly from cancer. As a rule more difficulty is experienced in swallowing solid food, though it rarely happens that solids may be more easily swallowed than fluids.

Discomfort after food.—It is rare for patients to complain of severe pain, but discomfort immediately after swallowing food is almost always present, and is worse during the "attacks" of dysphagia. A remarkable feature is the different regions to which the pain may be referred, the pain being either "in the pit of the stomach", behind the sternum, below the angle of the left scapula, or below the left costal margin. The discomfort may be associated with flatulence and may be relieved by eructation of gas, thus mimicking the dyspepsia of cholecystitis.

Respiratory symptoms.—In adult life the condition is often associated with respiratory and cardiac symptoms. The most troublesome respiratory complication is spasmodic cough, rather like whooping-cough, produced by taking a meal and relieved by regurgitation of food or gas. The patient may even induce vomiting to obtain relief. Hiccough and "asthma" are often severe and may interfere with sleep.

Cardiac symptoms.—Pain simulating angina pectoris has been encountered (4). A feeling of "oppression" in the chest, unconsciousness following fits of coughing and dyspnœa due apparently to embarrassment of the heart has been observed in adults.

Diagnosis.

A single X-ray examination made as the patient swallows a mouthful of barium emulsion may show either a complete stoppage between the level of the root of the lung and the diaphragm, or a stricture which in adults is commonly mistaken for malignant disease. The fact that the stricture is not at the level where carcinoma commonly occurs should make one suspect an error in this diagnosis. If the obstruction is incomplete the barium can be seen to enter a much wider portion of the tube below the stricture. This dilated portion above the diaphragm is quite unlike the lower end of the œsophagus below a stricture, being not only wide, but also rugose. Though there is a second narrowing where the tube passes through the diaphragm, this is not due to the cardiac sphincter, because if, when there is barium in the stomach, the patient be tilted up into the Trendelenburg position, the opaque material can be observed to flow freely back above the diaphragm as far as the stricture in the œsophagus. This provides the radiographic evidence that the tube between the stricture and the diaphragm is a portion of the stomach lying in the thorax.

That the dilated portion between the stricture and the diaphragm is in fact a portion of the stomach can be proved by passing an œsophagoscope and removing a fragment of mucous membrane from below the stricture. Sections of this fragment will show the usual arrangement of glands found in the cardiac portion of the stomach.

Causes of the Symptoms.

(i) *The defect in the œsophagus.*—If the œsophagus were merely short there would be no reason for the obstruction which is present at the junction of the short œsophagus and the thoracic portion of the stomach. It has been mentioned already that this condition can exist without obstruction, but, as far as we can judge at present, a short œsophagus is very liable to obstruction at its lower end. It is questionable whether the obstruction is due to a defect of structure or of function at this point.

In support of a purely anatomical defect may be adduced the fact that the œsophagus is maldeveloped, and that in this same situation septum formation has been observed. Abel (5) had recorded a case in every respect similar to those now under consideration, except that a complete membrane closed the lumen of the œsophagus about 1 in. below the bifurcation of the trachea. The membrane was so thin that it was possible to rupture it by pressure with the œsophagoscope. Stricture formation might be regarded as a manifestation of the remnant of such a membrane.

Negus (3) has examined the œsophagus of a child of 1 year and 7 months who died after œsophagoscopy, and he found that at the site of constriction the mucous membrane was deficient and was replaced by granulation-tissue. This could not have been due to instrumentation, and it suggests that an inflammatory fibrous stricture may supervene as a complicating factor in at least some of the cases.

There are certain features, however, which are hard to explain on an anatomical hypothesis alone. The fact that the obstruction may not appear till young adult life, and that at all times of life it is present only from time to time, is more suggestive of a defect in the neuro-muscular mechanism governing the sphincter at the lower end of the œsophagus—a condition closely allied to if not identical with cardiospasm. It is not unreasonable to suppose that the lower end of the œsophagus when anatomically defective might show a disorder of function.

A patient under the care of the Surgical Professorial Unit at St. Bartholomew's Hospital (Sir Thos. Dunhill, Arris and Gale Lecture, 1934) had her first attack of dysphagia during her first pregnancy, and subsequent attacks occurred during every pregnancy as well as at other times. In Abel's case, previously quoted, the infant also suffered from hypertrophic stenosis of the pylorus. Though these observations are brought forward merely as circumstantial evidence, they may be taken to suggest an association of this condition with sphincter disturbances in other viscera, the inference being that the œsophageal obstruction may itself be due to a disordered sphincter.

(ii) *The presence of part of the stomach in the thorax.*—Narrowing of the lumen at the lower end of the short œsophagus can account for dysphagia and retrosternal discomfort. But the respiratory and cardiac symptoms and the discomfort referred to the left subcostal and subscapular region are attributable to distension of the intrathoracic portion of the stomach. Occasionally these symptoms may be intensified as a result of herniation of other abdominal viscera through the œsophageal orifice in the diaphragm.

It must be understood that because the œsophagus fails to elongate and part of the stomach is anchored by it, the hernial sac is formed by the diaphragm moving downwards during development, and drawing a sac over the stationary stomach. The œsophageal orifice in the diaphragm is thus also maldeveloped, and may vary very considerably in size. It is never wide enough to allow the stomach to pass through easily, and as a rule it is so narrow that it produces an hour-glass constriction of the stomach.

Distension of the supra-diaphragmatic pouch of the stomach after a meal is probably the cause not only of pain, but also of the respiratory and cardiac symptoms which are so prominent a feature in adult cases, and relief of the symptoms by vomiting or eructation of gas is readily explained.

Treatment.

In infants improvement in swallowing has followed œsophagoscopy (2, 6), and if there is anything in the theory that the obstruction resembles cardiospasm, dilatation by bougies is the treatment which should be given a fair trial before resorting to other methods.

Should dilatation fail and should the symptoms be severe enough to demand treatment, trans-thoracic œsophago-gastrostomy would appear to be the rational procedure. Technical difficulty may arise owing to the proximity of important structures in the posterior mediastinum, and it may be impossible to free the œsophagus sufficiently to permit of carrying out the anastomosis if the lesion lies close below the root of the lung.

When symptoms are due to diaphragmatic hernia or

distension of the portion of the stomach which lies above the diaphragm, it will be necessary to alter the relationship of the stomach and diaphragm so that the diaphragm may be attached to the œsophagus at its lower end, and so that the stomach may lie entirely in the abdomen.

The following points in technique require consideration. As a preliminary measure the diaphragm should be paralysed by avulsion of the left phrenic nerve. This makes subsequent suturing of the diaphragm easier because the diaphragm is immobile, and lies at a higher level. But it occasionally does more than this, for the immobilization and raising of the diaphragm may prove to be in itself a sufficient therapeutic measure.

The best method of approach is probably a combination of the abdominal and thoracic routes. Since the œsophagus is short, even with a paralysed diaphragm it will be found difficult or impossible to excise the peritoneal sac, and to suture the diaphragm around the lower end of the œsophagus working entirely from the abdomen. With the chest open these steps may be completed more safely and more efficiently.

In removing the peritoneal sac and placing the stomach in the abdominal cavity, it may be found necessary to enlarge the opening in the diaphragm, and in the end there may be a large gap to fill in around the œsophagus. Fascial sutures may be of much help in achieving a sound closure, and fascial strips may be obtained either from the fascia lata or from the semi-spinales muscles (Lake (4)).

I am indebted to my House Surgeon, Mr. G. Weddell, for the reproductions of the radiograms.

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J. PATERSON ROSS.

SOME COMMON FRACTURES OF THE UPPER EXTREMITY.*

IT is impossible to consider more than a few fractures in the time at our disposal, and this would seem to be best employed in discussing those which are at the same time of common occurrence and do not require any complicated apparatus.

A supra-condylar fracture at the lower end of the humerus often occurs. It is usually seen in children. The fracture in the typical cases occurs, more or less transversely, about half an inch proximal to the epiphysial line at the lower end of the humerus, so that the epiphysis is displaced with the distal fragment. The distal fragment is displaced backwards, and the pull of the triceps tends to maintain this displacement. In the less severe degrees of this fracture the displacement simply takes the form of angulation of the distal fragment backwards on the shaft, making a convexity forwards at the site of fracture. Such fractures are not difficult to treat. In the more severe degrees the distal fragment is completely separated from the shaft of the humerus and lies posterior to it. In these cases it is often found that the distal fragment is also displaced to one side in addition to its backward displacement—usually to the ulnar side. In cases of great severity paralysis of one or more nerves may be found; the musculo-spiral is most commonly involved, it being stretched over the anterior aspect of the prominent lower end of the shaft. It is obviously important to recognize any nerve lesion before any manipulative or other treatment is carried out, otherwise the doctor may be blamed for the paralysis.

There is hardly a fracture in the body to which the old teaching of immediate reduction of the fragments applies more strongly than to a supra-condylar fracture of the humerus in a child. In spite of considerable swelling, or any other difficulty, an immediate attempt at manipulative reduction should be carried out under a general anæsthetic. The longer it is left the more difficult does reduction become. In those cases in which the deformity is a simple angulation of the fragments, it may easily be corrected by gripping the lower part of the upper arm with both hands, the fingers pointing anteriorly and the thumbs being behind; with the latter, pressure is exerted in a forward direction over the back of the distal fragment and elbow-joint, and the displacement is corrected. In those cases where the distal fragment lies completely behind the lower end of the shaft the procedure is different. An assistant

* A lecture in the Post-Graduate Course given in St. Bartholomew's Hospital.

holds the upper arm firmly, while the surgeon with the elbow in the extended position makes firm traction on the limb by pulling on the wrist until shortening is overcome. While still maintaining this traction on the wrist with one hand the elbow is flexed, and at the same time the distal fragment is held away from the lower end of the humeral shaft by the surgeon grasping the proximal part of the forearm with his other hand. If reduction is satisfactory the fragments usually tend to remain in position. The arm is then immobilized with the elbow at a right angle by means of a plaster splint along the back of the arm and forearm. The forearm should be in a position of pronation. It seems hardly safe to put the elbow in a position of full flexion immediately after reduction of the fracture, as has been advised. The latter position in the presence of swelling is likely to cause such pressure on the vessels at the elbow as to lead to Volkmann's ischæmic contracture. The arm is kept at complete rest at a right angle for ten to twelve days according to the amount of swelling; the plaster splint is then removed and the forearm is suspended from the neck by a collar and cuff. The latter is shortened from day to day so that the elbow is gradually flexed more and more. After three weeks gentle active movements are begun, but great care must be exercised lest the movements of full flexion be lost; for this reason it is wisest for the collar and cuff to be worn at night, and for most of the day until five weeks from the date of the accident, when full but careful use of the arm may be allowed.

Volkmann's ischæmic contracture has already been mentioned; although, fortunately, not very common, it is such a disaster when it does occur that I will refer to it again briefly. After reduction of any fracture in the region of the elbow in a child the circulation of the hand must be watched most carefully during the first three or four days. It is not sufficient to feel the pulse at the wrist, as venous obstruction will cause ischæmic contracture. Any cyanosis or venous dilation must be looked for, and if there is any suspicion of these being present, the elbow must be extended a little more until a healthy circulation is restored. All severe fractures of the elbow are best treated with the patient in bed, and the arm well elevated above the body—this diminishes swelling and thus allows a better circulation.

Sometimes it is impossible to obtain a perfect position by manipulation. A decision has then to be made as to whether one will be satisfied with this imperfect position, or whether an open operation should be carried out in an attempt to obtain a perfect reduction of the fragments. Every case has, of course, to be judged individually, but in children one should not be too keen to operate; if the position after manipulation is moderately good, it is often wiser to continue with closed methods, as ultimately the function obtained will be as good, if not better than if an operation is performed. Operation is more frequently indicated in adults.

Colles's fracture is still the most common of all fractures seen at this Hospital. This fracture for some years was treated, after reduction on a padded splint, with early massage and movements. For the last five years we have followed the ancient principles of rest in the treatment of fractures, and using the technique advocated by Böhler have kept the wrist absolutely immobilized until the fracture has united.

Early reduction is extremely important in obtaining early return of function and avoiding stiffness. Until the fracture is reduced and securely immobilized the patient is not to move her fingers; and so, if her reduction is left until the day following the injury, 24 hours are lost in commencing active finger movements, which are so important in obtaining early and full function, not only of the fingers, but of the whole hand and wrist.

The patient being anæsthetized, the fracture is reduced. It cannot be emphasized too strongly that the first step in reducing a Colles's fracture is to make certain that the fragments are disimpacted before an attempt is made to bring the distal fragment forward into its correct position. Contrary to what is sometimes said, a certain number of Colles's fractures tend to slip out of position again after reduction if they are not securely held by a close-fitting splint. A dorsal plaster splint is therefore used. A plaster-of-paris bandage, 5 yds. long and 4 in. in width, is made into a slab by unrolling it backwards and forwards upon itself on a flat surface (preferably glass), after it has been soaked in cold water. It is made of a length sufficient to reach from just below the elbow to the heads of the metacarpals. While still quite wet and soft, it is placed on the back of the forearm and hand and carefully moulded to the shape of the limb, especially around the bony prominences at the wrist; the sharp corners of the plaster above and below are rounded off immediately, while they can still be cut easily with a strong pair of scissors. It is especially important to do this at the upper end, cutting away the plaster sufficiently, so that when the elbow is fully flexed the plaster will not press into the skin in front of the elbow. Before the plaster has set a 2½-in. calico bandage is put on firmly, but not tightly, around the forearm and hand; it is taken round the wrist and hand, coming across the heads of the metacarpals and through between the thumb and index finger; it is kept well up into the cleft between the latter two so that flexion of the index finger is quite unimpeded. While the plaster

is setting, the wrist and forearm are firmly gripped by the surgeon with both hands, holding the fracture well reduced. When the plaster has set, in order to hold the hand more securely up to it, a turn of 1-in. adhesive strapping is put around the hand over the bandage, coming through between the thumb and head of the metacarpal of the index finger.

The position in which the hand is immobilized varies according to the severity of the case. If the fracture is one which, after reduction, remains in the corrected position well, or can easily be held in good position, then the hand and forearm are put in a straight line, *i. e.* the wrist is in a neutral position; the forearm is kept midway between pronation and supination. If there is a considerable tendency for the fragments to slip back into bad position after reduction, then the Cotton-Loder position of flexion at the wrist with ulnar deviation and pronation is used. The Cotton-Loder position is excellent for maintaining the distal fragment in a correct position, but it is not good for obtaining rapid return of function, therefore this position is kept only for a week; the plaster splint is then removed and replaced by a fresh one in a neutral position, as for a simple Colles's fracture. When using this method of a dorsal plaster unpadded splint the patient can flex her fingers fully into the palm—a thing she cannot do with some other splints, *e. g.* a Carr's splint. She is encouraged to move her fingers through a full range as soon as the effect of the anæsthetic has passed off, and is ordered to extend her elbow and raise her arm above her head several times a day. When an elderly person keeps his or her arm in a sling for some weeks, it is not uncommon to find considerable stiffness of the shoulder. Whatever the cause of this, it can easily be avoided by raising the arm above the head once or twice a day. After two or three days she is discouraged from using a sling, and urged to use her hand as much as possible for light duties. When the splint fits the limb exactly as a plaster splint does there is absolute immobility of the fragments, and thus absence of pain, when using the hand, after the first few days. When the hand and elbow can be used freely, extremely little stiffness occurs at the wrist. The plaster splint is kept on for four weeks or longer in the case of old people; three weeks is usually sufficient in young persons and in cases of separation of the distal radial epiphysis. The splint is not removed during this time, except in exceptional cases, when it gets loose; then it is replaced by another similar one. No massage or other form of physio- or electro-therapy is used other than the free use of the hand and elbow by the patient, except in the case of elderly patients after the removal of the plaster. It is surprising in what good condition the forearm and hand are when the splint is removed, and what good movements are present immediately, or at any rate within 24 hours after removal of the splint. If a patient has light manual work, he is able to do it while the splint is still on. In one case a man returned to his work of driving a motor-van after 14 days; while another man, except for 2 days' absence from work, continued, without interruption, his employment as a tailor, though he said that with the splint in position it was not easy to do really fine stitching.

There are two other fractures I wish to discuss briefly. Though these two may not seem to be common they are really of not at all infrequent occurrence, and are particularly important because they may so easily be overlooked at first, unless the possibility of their occurrence is remembered and skiagrams are obtained. I refer to fracture of the head of the radius and fracture of the scaphoid (navicular) at the wrist.

Following a fall on the outstretched hand, or on the elbow, the patient complains of pain in the latter. There is no deformity nor, at first, swelling, and the case may be looked upon as a sprained elbow. Close examination may, however, reveal a localized tenderness over the head of the radius, and skiagrams show a vertical crack in the bone usually in the anterior half of the head. There is a variety of fractures of the head of the radius, but this vertical crack with little or no displacement is much the commonest, and indeed is one of the commonest fractures seen in the out-patient fracture clinic. It may be easily overlooked; indeed it is not very serious if it is, but it is always well, for more reasons than one, to know whether a patient has a fracture or not. When a vertical crack such as this is diagnosed, the elbow should be flexed to less than a right angle, and the wrist supported from the neck by a collar and cuff. It should be thus immobilized for about three weeks, after which the forearm may be dropped to a right angle for another week, when full movements may be carried out. It is sometimes advised that full movements should be allowed from the beginning, but in some of such cases there is a considerable and rather persistent stiffness from muscle spasm, though in others it is true that the case progresses very rapidly and well. In cases in which there is a definite displacement of a fragment, an attempt to replace it by flexing and extending the elbow while rotating the forearm may be attempted, but usually an open operation is required.

The only certain way to avoid missing a fracture of the carpal scaphoid is to have every injury of the wrist X-rayed, particularly if the pain and tenderness are on the radial side of the wrist. There is a variety of

fractures of the scaphoid, but the commonest is through the middle or waist of the bone. The wrist should be immobilized in a position of full hyperextension. Plaster-of-paris applied directly to the skin is the best splint. It should be left on for six weeks and then removed and the wrist X-rayed; if the fragments have not united (and union as early as this is very uncommon) it should be immobilized for another six weeks, and so on until there is union as shown in a skiagram. After eight months, immobilization may be stopped even though bony union is not present, as after this length of time, fibrous union so firm that it allows no movements of the fragments has usually occurred. Open operation with removal of a fragment or fragments is sometimes lightly suggested, but except in rare circumstances it is not advisable. Conservative treatment almost always gives a better result than operation—the most that can be said of operation is that it may improve a bad wrist following a fractured scaphoid, but it will never make a fair result into a perfect one. The result of a neglected fracture of the scaphoid is likely to be a stiff, weak and painful wrist.

JOHN HOSFORD.

SMALLPOX AND VACCINATION: A HETERODOX VIEW.

YE who listen with credulity to the voice of authority, and follow with docility in the footsteps of Jenner; who expect that this age will reproduce the conditions of the past and Jenner's views be applicable to all the to-morrows; attend, I pray you, to the views of a heterodox pro-vaccinist.

I accept as a fact the statement that vaccination temporarily protects from smallpox, but I question the deduction of the orthodox that therefore everyone should be kept permanently immune from smallpox by repeated vaccination, and I deplore the official attitude of declining to subdivide the disease save in historic retrospect, and of even now failing to record the subdivisions statistically. Indeed, I consider it behoves the orthodox to reconsider their position, as there is such divergence between their views and what the generality will accept.

Immunization is a form of insurance, and there are two types of insurance, the one involving the paying of repeated premiums against a common or inevitable happening at an uncertain date, and the other the payment of a single premium against a happening during a limited period. Life insurance is an example of the former, insurance against war of the latter, and the difference between the orthodox and the generality would seem to be that the orthodox consider smallpox infection to be a grave and continuing risk, while the community regard the infection as one to be guarded against only when it appears.

In 1933 the orthodox vaccinal faith was again reaffirmed by the Annual General Meeting of the British Medical Association; that meeting declined to admit that the substitution of voluntary for compulsory infant vaccination merited even consideration, and passed without a division a resolution, "That efficient vaccination and revaccination provide the only known method for the prevention of smallpox and its dissemination". This is pure Jennerism, undiluted by time or changed conditions.

When in 1798 Jenner published his discovery that milkmaids who contracted sores on their fingers from the udders of diseased cows were immune from smallpox, he at first thought this immunity of lifelong duration, and it was reasonable to advocate universal immunization by vaccination against a grave endemic disease from which few escaped. Again, because of the prevalence and gravity of smallpox it was natural to advocate revaccination when it was found that vaccinal immunity was not of lifelong duration. But in 1934 still to advocate general immunization requires explanation. It is true, however, that though we readily accept new ideas which do not conflict with old ones, we have great difficulty in admitting any error in established views. Lister's contemporaries, accustomed to the term "laudable pus", found the conception that pus was not laudable very difficult to accept; similarly for those brought up on the general vaccinal immunization faith, the idea that changed conditions may make such immunization both impossible and unnecessary is a difficult one even to consider, as Killick Millard, who has advocated the idea for more than twenty years, has found.

To state the orthodox view in practical terms: (1) Compulsory infant vaccination is, in fact, evadable, for if within four months of the birth the parent makes a statutary conscientious objection, the baby escapes vaccination; if it is not made, then, unless the baby be vaccinated within six months, the parent is liable to a fine. In practice, however, only 40% of the babies born are vaccinated, and three out of five are not vaccinated. Of these vaccinated it is reasonable to suppose that half of them have orthodox parents who need no compulsion; if so, only one baby in every five is vaccinated compulsorily. Without regard, then, to the merits or otherwise of infant vaccination, it is surely arguable that since compulsion breeds resistance, voluntary vaccination and propaganda might result in the

vaccination of more babies, which is the goal of the orthodox.

(2) General immunization by vaccination and revaccination: What this means in practice for the individual is not precisely stated. In 1929 the vaccination committee reported that to immunize children they should be vaccinated in infancy, again at seven years of age, and a third time at fourteen; but they did not suggest what should happen after that. However, the Ministry of Health directs that applicants for work in smallpox hospitals be vaccinated unless they have been successfully vaccinated within the preceding two years; and according to this an applicant of seventeen would have to be vaccinated again even though he had already been vaccinated three times. In times of epidemic it is customary to advise inquirers that, unless they have been successfully vaccinated within the preceding five years, they are not safe from smallpox if exposed to infection. It is an interesting fact that the majority of orthodox doctors, if called upon to see a case of smallpox, promptly get vaccinated, for they do not trust themselves to have adequately carried out their own advice to maintain a state of permanent immunization. So unpractical is the advice that nowhere is it laid down what it means in practice.

How far is the general population immunized? 40% only of the babies are vaccinated, and this immunization is not to be relied on after seven years of age. Of those over seven years of age some of the orthodox are revaccinated, and financial pressure causes the vaccination of others, it being made a condition of employment in some cases, while it is common to make vaccination an antecedent condition of admission to convalescent homes of ailing children; also when smallpox infection is present in a locality many people are vaccinated. But the total of all these vaccinees in the whole population is so small that this country must be regarded as one unprotected by vaccination. In times of epidemic it is assumed that no one is protected by vaccination unless they can show that they are exceptions to this rule. With regard to infant vaccination, the majority of the local authorities who administer the vaccination laws have informed the Minister that in their opinion the compulsory element should be repealed and vaccination done free for those who desire it. To come now to the risk of smallpox, having outlined the orthodox method of protection against it.

The Smallpox Risk.

In this country for a long period, the incidence of classical smallpox has been steadily diminishing, while its virulence has remained substantially unchanged. The smallpox mortality per million of population per annum was:

For the period	1872–1880 . .	156
,,	,, 1881–1900 . .	30
,,	,, 1901–1910 . .	13
,,	,, 1911–1920 . .	1

For the period 1921–1930 considerably less than 1, but there are no reliable official figures for this period.

Until 1919 in this country all smallpox was regarded as classical smallpox, or as it is now termed, "variola major". Then a mild form was introduced called in the Americas "alastrin" but now termed "variola minor", and there were more than 50,000 cases of it in the period 1921–1930. The two forms, variola major and minor, breed true, and their only difference is one of virulence. Obviously, then, they should be subdivided, but this has been done very imperfectly. The difficulty is that the laboratory people cannot differentiate between the two forms, and the clinician is accustomed to diagnose the individual case. A mild case of variola major may be indistinguishable from a case of variola minor, but if a consecutive series of six cases be considered the diagnosis is obvious. If the infection be variola major, one or more of the cases will be of a more virulent character than is ever seen in variola minor, and if there are no such virulent cases the infection is minor, and the epidemic will remain trivial in character; therefore local authorities should be able to say what the infection is in their areas. But the Registrar-General in his returns reports only smallpox, and does not subdivide the disease into its two forms, while the Ministry of Health did not until the autumn of 1933 state that in 1932 there were no cases of variola major, but some 2000 cases of variola minor. Furthermore, the Ministry of Health Report No. 62 of 1931, Smallpox Prevention, discusses the two forms, but gives no differential diagnosis.

As variola major is a disfiguring and often fatal disease, while variola minor does not permanently disfigure, and is of trivial character, save at the extremes of age, it is misleading not to subdivide them. Fortunately, however, variola major has news value, so the lay press emphasizes the difference between it and the prevalent variola minor. The Registrar-General, in addition to confusing the public by his undifferentiated smallpox, is by so doing led to make a misleading return of smallpox deaths. It is customary to regard the Registrar-General's statistical returns as exact statements of fact, whereas they are mere approximations.

The returns are derived from the death certificates

which state causes of death, from which the enumerator has to select one, using as his guide a manual in which is set out a list of causes in the order of their supposed gravity. The result is that from the certificate is selected the cause highest on the list. If smallpox appear on the certificate, smallpox must be the cause of death selected, for smallpox heads the Registrar-General's list, and being a notifiable disease, must be mentioned on the death certificate, however remote its influence on the fatal issue. To select variola major as the operative cause of death is substantially in accord with fact, but to select variola minor is of course to make nonsense of his return. Clearly therefore if smallpox were subdivided, variola minor would be placed very far down on this list.

During the period of variola minor prevalence there have been several introductions of variola major all rapidly brought under control; the risk of variola major infection continues to diminish, and is negligible. Since the public in the presence of variola minor largely refused vaccination, preferring to run the risk of the disease, the orthodox can hardly advocate their panacea—non-epidemic vaccination. Surely it would be better for the profession to reconsider their attitude, and devote themselves to further improving the eminently successful method of controlling infection when infection is present. The High Priests of orthodoxy, however, declare that, though variola major has been negligible for thirty years, yet a great epidemic is coming, and nothing but the general acceptance of the orthodox faith can prevent it.

The Present Method of Control of Smallpox Infection.

Our modern method was only made possible by the Notification of Infectious Diseases Act of 1889, for notification made it possible effectively to circumscribe infection, both by the isolation of the infectious in hospital, and by the surveillance and vaccination of contacts. Variola major must initially have come from overseas, as we live on an island, and cases and most contacts are now adequately dealt with on arrival. Occasionally, however, a contact arrives unrecognized, and still more rarely is not diagnosed when he develops the disease, but of recent years the case or cases to which he gives rise have invariably been diagnosed, the infection circumscribed, and the outbreak rapidly brought to an end.

It is clear that vaccination should be made as attractive as possible to ensure vaccination of contacts. One method of so doing depends on the fact that though immunity is established on the eighth day after vaccination, if the vaccinal area is excised on the fifth day immunity is still attained. It is therefore good practice to disinfect the vaccinal area on the sixth or seventh day by means of pot. permang. compresses, for these allay irritation, and should diminish the risk of septic complications. (Pot. permang. baths and compresses are invaluable both in variola and varicella.) Another method of making vaccination more attractive is to lessen the dose, as an evanescent protection is adequate for an epidemic. But unfortunately this is against the orthodox tenet, for an epidemic is employed as a means of getting as many people immunized as possible in preparation for a hypothetical future epidemic; yet they do not seem to realize the temporary nature of the immunization from even the maximum dose of vaccine, and the improbability of exposure to fresh infection during the period for which it would be efficacious. If administrative efforts, then, were concentrated on the infection present to the exclusion of provision for a hypothetical future, epidemic treatment should gain in efficiency.

Epidemic treatment has not been successful in the case of variola minor, but during the same period it has been successful in the case of the several introductions of variola major infection, and the explanation, in the case of the major infection, is that the patients follow the advice of the authorities; in the case of the minor form, on the other hand, they regard it as trivial, and so do not follow the official advice.

To summarize, I regard the B.M.A. Confession of Vaccinal Faith as an entirely abstract one, and as impossible to put into practice, as would be the advice to stay in bed to avoid street accidents. Its futility is demonstrated by formulating what it entails as a practical proposition, and recording the unvaccinated state of the population, and the exceeding rarity of variola major infection during the last thirty years. This may be attributed to the efficient method of dealing with the infection when introduced into this country; as the great epidemic predicted by the orthodox entails the breakdown of this method, however, I briefly suggest possible improvement, deploring the imperfect subdivision of smallpox into its major and minor forms by the authorities—a procedure which is easy, and attempted at least by the lay press.

In fact, I regard the orthodox faith because of its antiquity as one not to be sanctioned, but to be questioned, for the vaccination problem is an important one, and when the public and the profession are at variance, it is for the younger members of the profession with open minds to resolve the problem.

R. W. JAMESON.

REMARKS ON DR. JAMESON'S PAPER CONCERNING SMALLPOX AND VACCINATION.

By M. H. GORDON, D.M., F.R.S.

THE protection afforded against smallpox by the inoculation of cowpox virus is one of the best established facts in the whole field of medicine, and it may interest some of the readers of the Journal to know that Jenner's original monograph of 1798, and the second edition of it presented by the author to Abernethy with an inscription in Jenner's writing, are among the treasures in the Hospital Library. Jenner studied cowpox for over twenty years before he brought out his first paper, and was not content merely with a careful record of instances where persons who had naturally acquired cowpox afterwards escaped smallpox; he delayed publication until he had actually made the experiment of first inoculating the normal human subject with cowpox virus, and then proving that the subsequent inoculation of smallpox virus was without effect. In a report to the Government on vaccination nine years later (1807), the Royal College of Physicians remarked that this experiment of Jenner's on the human subject had been repeated and confirmed thousands of times: In fact, some had even inoculated smallpox several times to make sure. Jenner, of course, made mistakes, as pioneers must; but he remains for all time one of the greatest and most inspiring of our medical pioneers.

As all immunity is relative, so the immunity against smallpox conferred by vaccination is no exception. It seems likely that the duration of the immunity is greater against weak strains than against more virulent strains of smallpox. At any rate most medical men who come in contact with smallpox are revaccinated, and advise others to do the same.

Dr. Jameson, I take it, accepts all this, and his "heterodoxy" relates chiefly to the present policy pursued by the public authorities in regard to compulsory vaccination. There is no doubt that here he has a case, and his earlier efforts to get official sanction for the distinction between variola major and minor have already been partly successful. But although these two forms seem to breed true, the sole difference, so far as can be seen from serological and other tests between the viruses of variola major and minor, is that of virulence. Now virulence is an attribute about which comparatively little is known. It is conceivable that a particularly favourable soil, or some fortuitous association with another virus or another unknown factor might enhance the virulence of a strain of variola minor. One can quite see, therefore, that responsible Public Health Authorities may well hesitate before committing themselves and the State to what would, in the eyes of some, constitute something of a gamble.

There is another side to the whole problem, namely, whether it may not be possible to produce immunity to smallpox by some measure less severe than the cutaneous inoculation of a living virus. Even though that is the comparatively benign virus of cowpox, some few persons have been known to develop grave sequelæ, and no method of immunization, however effective, can be regarded as satisfactory so long as that is the case. There are certain recent experimental observations on rabbits by Tulloch and Craigie, for instance, that suggest (1) that by employing a particularly virulent strain of vaccinia an exceedingly potent protective antiserum can be prepared, and (2) that by using sensitized virus, *i. e.* virus flocculated by this antiserum, a certain degree of immunity can be produced without any lesion. Progress, however, along these and other lines will be slow until these methods are tried on the human subject, and at present there does not seem to be any enterprise in this country for doing that. In this respect Jenner and his contemporaries enjoyed an advantage that has now gone. In view of the slowness of progress in the practical immunization against other virus diseases affecting the human subject, it may be of considerable significance that the specific immunization against smallpox has reached its present high state of efficacy entirely by observations on the human subject.

With regard to recent outbreaks of variola major, the success of the authorities in limiting them is certainly remarkable, and active vaccination has probably been the most important single factor in that success. It is very fortunate that even after exposure to smallpox infection immunity can be produced and an attack prevented, provided that vaccination is done at once, or within a day or so. There can be little sympathy with people who refuse vaccination or revaccination under such circumstances. At the same time there is such a thing as progress, and if variola maxima returns, something might be attempted in the way of specific treatment. It would be interesting to know, for instance, whether serum from normal persons 11–14 days after vaccination or revaccination is of benefit; according to animal experiments with vaccinia the 14th day is the best on which to collect the serum. The Lister Institute also now have an antivaccinia (horse) serum that might be tried.

COLLEGE APPEAL FUND.

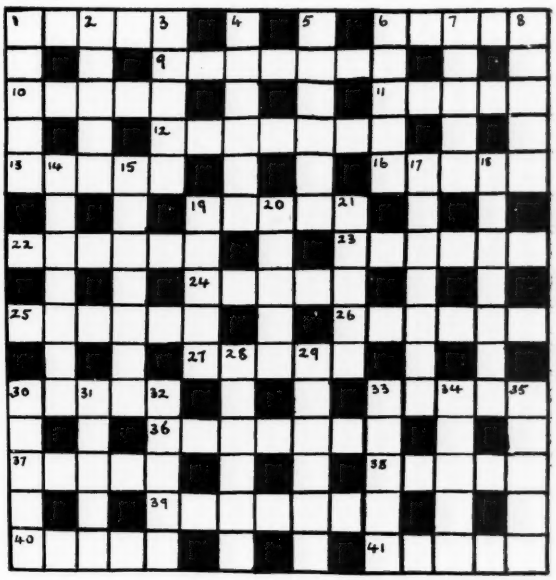
SUBSCRIPTIONS TO DATE.

	£	s.	d.	*		†
Staff	12,672	15	10	(71)		
Demonstrators	1,695	11	0	(68)		
Students	765	6	5	(287)		
Old Bart.'s men:						
‡Bedfordshire	25	3	6	(7)	.	(26)
Berkshire	121	1	0	(15)	.	(37)
‡Buckinghamshire	76	19	0	(14)	.	(29)
‡Cambridgeshire	183	6	0	(17)	.	(42)
‡Cheshire	4	14	6	(3)	.	(26)
‡Cornwall	31	11	0	(8)	.	(36)
Cumberland	5	0	0	(1)	.	(6)
Derbyshire	19	14	0	(4)	.	(17)
‡Devonshire	558	15	0	(52)	.	(117)
‡Dorset	52	1	0	(14)	.	(30)
‡Durham	17	7	0	(4)	.	(11)
Essex	253	2	6	(20)	.	(69)
‡Gloucestershire	225	15	6	(23)	.	(66)
Hampshire	435	8	0	(43)	.	(134)
‡Herefordshire	14	4	0	(5)	.	(11)
Hertfordshire	84	11	0	(16)	.	(73)
Huntingdonshire						(1)
Isle of Wight	181	13	0	(12)	.	(25)
‡Kent	569	9	0	(66)	.	(146)
‡Lancashire	91	4	6	(12)	.	(82)
Leicestershire	136	15	0	(7)	.	(28)
‡Lincolnshire	54	13	0	(15)	.	(25)
Middlesex	385	6	0	(21)	.	(68)
‡Norfolk	167	15	6	(21)	.	(60)
‡Northamptonshire	59	4	0	(5)	.	(17)
‡Northumberland	101	1	0	(2)	.	(11)
‡Nottinghamshire	19	19	0	(3)	.	(28)
‡Oxfordshire	185	3	0	(18)	.	(29)
Rutland						(2)
Shropshire	35	9	0	(8)	.	(22)
‡Somersetshire	1,024	16	0	(28)	.	(43)
Staffordshire	194	18	0	(6)	.	(37)
‡Suffolk	290	6	6	(21)	.	(46)
Surrey	466	17	6	(53)	.	(180)
Sussex	401	16	0	(57)	.	(170)
Warwickshire	178	1	6	(18)	.	(56)
Westmorland	2	10	0	(1)	.	(5)
‡Wiltshire	110	11	0	(12)	.	(26)
‡Worcestershire	160	0	6	(24)	.	(24)
‡Yorkshire	282	6	6	(23)	.	(101)
Wales	59	7	0	(14)	.	(150)
London	2,861	10	8	(190)	.	(971)
Channel Islands	20	0	0	(2)	.	(9)
Scotland	14	4	0	(4)		
Abroad	48	5	0	(7)		
South Africa	362	15	6	(19)		
Canada	113	2	6	(8)		
East Africa	82	7	0	(9)		
West Africa	146	10	0	(5)		
India	197	0	0	(10)		
Ceylon	4	0	0	(1)		
Syria	2	2	0	(1)		
U.S.A.	5	0	0	(1)		
Ireland	14	14	0	(3)		
North Africa	1	0	0	(1)		
North Borneo	5	5	0	(1)		
Australia	17	2	0	(4)		
Friendly Islands	1	1	0	(1)		
Egypt	5	3	0	(2)		
Malay States	6	0	0	(2)		
China	52	8	4	(9)		
Siam	10	0	0	(1)		
France	50	0	0	(1)		
Trinidad	22	2	0	(2)		
British West Indies	28	6	0	(3)		
Straits Settlements	1	1	0	(1)		
New Zealand	2	1	0	(2)		
Services	551	12	6	(40)		
Others	32,303	11	1	(322)		
	£59,329	12	4			

* Number of Bart.'s men subscribing. † Number of Bart.'s men in County. ‡ Counties with Secretaries.

CROSSWORD PUZZLE.

Solutions may be sent to the Editor. A *de luxe* copy of *Round the Fountain* will be given to the sender of the first correct solution opened after September 20th. Envelopes should be marked "Crossword".



ACROSS.

1. Tail-waggers? 6. Boasts of five less.
9. It's all right in 100 mu. 10. An egg about a salt.
11. Nephric.
12. Calculate, the duty on a bird?
13. Virgil's indignatio.
16. Louse (anag.).
19. Allude palindromically.
22. Symptomatic drought.
23. Lilies. 24. C_5H_7N.
25. Makes sable.
26. The hunter of these may be a wryneck.
27. Palliates.
30. "—— not a falling man too far" (Shakespeare).
33. Vessels.
36. "Just a mass of nerves, Doctor!"
37. Peach or almond.
38. May be present, under pressure.
39. Beheaded slave.
40. "... his native—— brought him serenely through" (Spurgeon).
41. Piles.

DOWN.

1. Roman dog.
2. "As though of —— I had drunk" (Keats).
3. A salt is twice docked.
4. Characteristic of pre-Raphaelite beauty!
5. Little Diana behind time.
6. "Ah, don't say that you —— with me!" (Oscar Wilde).
7. 5th inst.
8. It's most of all in the sun.
14. Let's do away with the A.R.
15. A tube containing grain would be distended.
17. Result of 22 perhaps.
18. This could be on metal.
19. Cause to arise.
20. "Now —— the glimmering landscape" (Gray).
21. Noises within.
28. "If ever a people required to be——it is we sad-hearted Anglo-Saxons" (Helps).
29. Great goings out. 30. Nerve of blushing?
31. Get out of. 32. His tongue will be slit.
33. Famous stylist. 34. First school of Greek philosophers.
35. Hats without a boy.

STUDENTS' UNION.

CRICKET.

AVERAGES, SEASON 1934.

1ST XI—BATTING.

Name.	Number of innings.	Times not out.	Highest score.	Total runs.	Average.
G. D. Wedd	11	1	90*	364	36·4
R. M. Kirkwood	13	1	77	404	33·7
R. Mundy	13	2	105	342	33·1
C. M. Dransfield	11	1	87	291	29·1
C. R. Morison	16	..	81	441	27·5
W. M. Capper	9	..	65	176	19·5
R. C. Dolly	14	2	85*	211	15·1
J. B. Bamford	3	1	20*	28	14·0
C. G. Nicholson	8	..	37	107	13·4
W. M. Maidlow	13	..	31	170	13·0
J. D. Anderson	8	..	34	99	12·4
D. J. A. Brown	12	1	32	112	11·1
J. D. Wilson	8	..	35	79	9·9
J. G. Berry	3	1	11*	18	9·0
G. A. Akeroyd	4	2	6*	10	5·0
G. V. H. Wade	3	..	7	13	4·3
S. Littlepage	4	..	7	16	4·0
J. C. Cochrane	8	3	7*	16	3·2

* Denotes not out.

1ST XI—BOWLING.

Name.	Runs.	Wickets.	Average.
C. R. Morison	68	10	6·8
C. M. Dransfield	110	12	9·2
C. G. Nicholson	173	14	12·3
J. C. Cochrane	282	22	12·8
J. D. Anderson	312	22	14·2
R. Mundy	420	27	15·5
G. D. Wedd	335	20	16·7
R. C. Dolly	152	7	21·7
S. Littlepage	66	3	22·0
J. R. Simpson	52	2	26·0

Runs for, 3267; wickets 159; average per wicket, 20·5. Runs against, 2974; wickets 177; average per wicket, 16·7.

SAILING CLUB.

HARVEY CUP.

This has been lost to London Hospital. The Bart.'s boat "Osprey" has been placed in the first three in five races out of seven, the average number of starters being five to six. On one occasion when we were not placed the main rigging was carried away in a squall, and fortunately there was no other damage. On the second occasion the "Osprey" was lying second on the run home when she filled with water and capsized. This was excusable to some extent! The weather was extremely bad, and out of seven starters only two finished the race. The helmsman and crew—Barrett and W. A. Cobb—had rather an anxious time before they were rescued. Evidently they found clinging to wreckage in a seaway somewhat exhausting.

BOURNE TROPHY.

Bart.'s is at present leading, having a first and two thirds out of three starts. There are, however, seven more races.

WILSON CUP.

Of seven entries from St. Bart.'s, two have reached the final heat, there being only three others in the heat. The Final is to be sailed on September 2nd.

DOUBLEDAY CUP.

Members are reminded that should they go for a cruise in anything from a yacht downwards they should keep a strict log which they might enter for the Doubleday Cruising Cup. This is presented for the best cruising log for the year. The most important rule is that the cruise should be sailed under the burgee of the U.H.S.C.

BART.'S REGATTA.

Sailed on April 28th this was a great success. All the boats were used. The race was a good one and not without amusement.

THE CLUB HOUSE.

This has at last arrived at Burnham and it is hoped that members will take every opportunity of using it. The standard of comfort at first will be that of a good cruising yacht. There is sleeping accommodation, and meals can be obtained on board at any time during the weekend. Charges for bunks and meals will be extremely moderate.

REVIEWS.

X-RAY AND RADIUM INJURIES. By H. A. COLWELL, M.B., Ph.D., M.R.C.P., D.P.H., and SIDNEY RUSS, C.B.E., D.Sc., F.Inst.P. (Oxford University Press: Humphrey Milford, 1934.) Pp. 205. Price 14s.

This book provides an excellent and systematic account of the injuries which may be produced from X-rays, and it will be seen from it that the types of injury that can be produced are as many as the tissues that make up the human body. Fortunately, however, the great majority of them occur only under experimental conditions, and such of them as are observed clinically, and are of any severity, are much commoner in radiologists, radiographers, X-ray tube and instrument makers, physicists and laboratory assistants, than they are in patients who come for treatment. These occupational injuries take the form of chronic X-ray dermatitis, often leading to carcinoma, and anæmias of varying degrees, occasionally leading to a fatal termination by aplastic anæmia. Sterility, both in male and female, may also occur. As affecting patients, skin erythemas are an everyday occurrence, and are deliberately produced in the practice of X-ray therapy. They are not regarded as a serious injury. True X-ray burns, however, are rare, and serious burns are very rare indeed. Other varieties of injury met with after therapeutic irradiation affect the lungs, and occasionally the larynx, causing perichondritis. Admirable and detailed accounts of all these types of radiation injury are given in the volume under review. The power of X-rays to produce sterility has long been known. It is often observed as an unavoidable effect when serious pelvic disease has to be treated by heavy doses of radiations. Therapeutically this effect is often employed in the production of an artificial menopause. During the first half of the child-bearing age recovery can occur from X-ray sterility, and temporary sterilization is often recommended and carried out, principally by German gynæcologists, for various conditions. This procedure has led to a good deal of controversy as to the possibility of injurious effects being produced upon the children born after recovery from temporary sterilization. This book contains an admirable survey of the present state of opinion on this subject, and the authors conclude that the bulk of opinion is against temporary sterilization, and they rightly state that "as a contraceptive it is without question to be condemned". The book is well written, although illustrations are somewhat scanty, and it provides a mine of information on its subject.

W. M. L.

MEDICAL BACTERIOLOGY: DESCRIPTIVE AND APPLIED, INCLUDING ELEMENTARY HELMINTHOLOGY. By L. E. H. WHITBY, C.V.O., M.D., F.R.C.P., D.P.H. (London: J. & A. Churchill, 1934.) 5 in. by 8¼ in. Pp. x + 338 + 16. 74 figures. Price 10s. 6d.

The problem that besets the student as to which books to buy is an ever-increasing one, what with the seductions of the publisher's "blurbs" on the one hand, and the excessive inquisitiveness of examiners on the other; and in the matter of books on pathology it is as difficult as any.

Obviously a standard text-book of general pathology is essential, and possibly a small book on post-mortem appearances or morbid anatomy, and some would even have a book of so-called "surgical pathology"; but in addition something on bacteriology is necessary, and until recently a suitable book was difficult to find. There were

many excellent text-books which were unnecessarily large, there were a few small cram-books where were undoubtedly bad, and furthermore the moderate-sized books usually omitted all mention of parasitology. In 1928 appeared Dr. Whitby's *Medical Bacteriology*, and the want was to a large extent fulfilled; the second edition has just been issued and is even better.

The book is divided into three parts. The first deals with the general properties of bacteria, methods of cultivation, and staining, and in this section are excellent chapters on bacteriological variations and their significance, and a most useful one on common contaminating organisms. Though it is hardly surprising that our native *B. fabragearius* is omitted.

In the second part the pathogenic organisms are dealt with in detail, followed by chapters on viruses and the more important worms and protozoa. The title may be a little misleading owing to the adjective "medical" being so often taken to mean only a part of the doctor's art, but in Dr. Whitby's book it will be found that tetanus is as carefully described as typhoid, and *Brucella melitensis* as *Bacillus mallei*. Although the illustrations of the various micro-organisms are excellent, yet certain of the parasites (in particular malaria) are by no means too clearly displayed, and it is a pity that no ringworm fungi are illustrated.

The last parts deal with applied bacteriology, the use of bacterial preparations, the methods of collecting specimens, and the bacteriological procedures appropriate to individual diseases, both diagnostic and therapeutic.

Obviously in a work of this size, where a vast field has had to be compressed into a very small compass, the author is forced into dogmatism, and in one or two places this has resulted in a lack of clarity; nevertheless the book can be wholeheartedly recommended to students, practitioners and clinical pathologists, for it will solve their problems, whether it be the habits of the *Bilharzia*, the methods of immunization in diphtheria, or the carrying out of a Rideal-Walker test.

MANIPULATIVE TREATMENT FOR THE MEDICAL PRACTITIONER. By T. MARLIN, M.D., M.B., Ch.B., D.P.H., R.C.P.S.(Eng.), D.M.R.E. (London: Edward Arnold & Co.) Pp. vii + 133. Figs. 86. Price 10s. 6d.

There are certain conditions which "cry out" for manipulation, and others in which such treatment is dangerous. Any volume which claims to deal with "manipulative treatment for the medical practitioner" must clearly indicate the affections in these two categories. In this respect the book fails, and we cannot recommend it to those relatively unacquainted with manipulative work. To those already accustomed to this it will be of interest as describing, with good illustrations, alternative methods, many those of the osteopath. Little mention is made of anæsthesia, and we read: "Having thus fixed the thigh with the strap, the operator is in a position to subject the knee to very considerable movement. The patient feels so helpless in this position that he offers very little resistance." One other phrase must be quoted as illustrating in exaggerated fashion an unscientific strain which runs through the book: "I am a firm believer in the healing power of a healthy hand sympathetically applied to the patient's skin . . ."

The statement of a well-known "bone-setter" that the mysteries of manipulative treatment cannot be imparted by books is but a half truth, and the fact that manipulations may be seen in quantity and practised by students in this Hospital on any Friday afternoon need not dissuade them from seeking the printed word on this important subject—but this is not just the book we would advise.

DISEASES OF WOMEN. By Ten Teachers. Edited by COMYNS BERNSKY, J. S. FAIRBAIRN and CLIFFORD WHITE. Fifth edition. (London: Edward Arnold & Co., 1934.) Pp. xii + 568. With 8 plates and 185 figs. Price 18s.

This is a text-book ideally suited both to the student and general practitioner, and represents a product of collective authorship at its best; for it is uniformly well written, and at all times clear and concise, with excellent illustrations throughout.

In this edition a full account has been given of the principles of new work on the ovary and ductless glands, particularly in their relation to menstruation and its disorders. The authors, however, have not overstated the case from the clinician's point of view, and no extravagant claims are made for therapeutic measures as yet, based upon endocrine stimulation. It is perhaps surprising, on the other hand, that greater importance is not attached to the operation of sympathectomy for dysmenorrhœa than the very brief mention of it in this book.

The chapter on Endocervicitis is good, and the subject of radium and X-ray therapy is well treated in a short space. It also seems wise, as the authors have done, to describe operative details in a section by itself. The question of Prolapse is well discussed here, but, in the chapter on the subject, it would surely be an advantage to include illustrations of the various types of pessary in common use.

The paper is good, and the book of a convenient size, and much to be recommended both to students and general practitioners.

EXAMINATIONS, ETC.

University of Cambridge.

The following degrees have been conferred:

M.D.—Langford, A. W., Maclay, The Hon. W. S., Oakley, W. G., Richards, F. A., Taylor, H., Windle, R. W.
M.B., B.Chir.—White, H. D.
M.B.—Carr, C. M., Westwood, M.
B.Chir.—Hadfield, S. J., Levick, R. E. K., Martin, C. J., Neill, E. J.

University of London.

M.D. Examination, July, 1934.

Branch I (Medicine).—Anderson, H. G., Keele, K. D., *Renbom, E.

*Awarded a mark of distinction.

M.S. Examination, July, 1934.

Branch I (Surgery).—Trevor, D. (University Medal).

First Examination for Medical Degrees, July, 1934.

Ambrose, A. B., Anderson, A. C., Arango, R. E., Atwill, J. A., Barwood, A. J., Blanshard, T. P., Bose, C. F., Cates, R. N., Clarke, T. H. W., Cooper, R. S., Corsi, E. L., Crabb, E. R. T., Davies, I. R., Donkin, W., Elmhirst-Baxter, E. M., Finnegan, J. D., *Fisk, G. R., Gillingham, F. J. V., Gimson, P. A., Goodman, P., Gunz, F. W., Hart, J. R., Hayes, S. T., Howitt, J. S., Jackson, C. A., Jones, H. B., Kingston, R. F., Langdon, T. C., Lillicrap, J. S., Linton, J. S. A., Lockyer, N. S., McShine, L. A. H., Messent, J. J., Morley, T. R., Nicolas, J. C. H., Reinold, D. G., Rogers, N. C., Savidge, R. S., Shuttleworth, V. S., Syred, D. R., Tatlow, W. F. T., Thams, M., Thompson, F. A., Warrick, C. K., Williams, E. H., Wince, W. H. D.

*Awarded a mark of distinction in Inorganic Chemistry.

Second Examination for Medical Degrees, July, 1934.

Part I.—Arango, C. M., Arden, L. D., Brown, D. J. A., Burnett, J. A., Butler, K. A., Craig, C. M., Curtin, A. P., Desmarais, M., Evans, E. O., Garrod, O., Hackett, J. T. A., Hughes, J. F., Jackson, C. A., Jones, H. B., Maycock, R., Morley, T. R., Nicholson, C. G., Page, W. J. O., Porter, A. S., Ramsay, R., Simpson, J. R., Tadros, V. R., Turner, E. W., Vincent, S. E.

Part II.—Bacon, A. H., Braines, F. M., Brown, K. Carnarvon, Carey, C. J., Darke, G. H., Foster, W. B., Grant, A. H., Harrison, R. J., Jack, A. H., Ramsay, F., Rendall, D. C. S., Rutherford, S. T., Sugden, W. G., Tadros, V. R., Thomson, A. H., Tongbai, B., Waring, J. W. B.

Royal College of Physicians.

The following has been admitted a **Member**: Keele, K. D.

Royal Colleges of Physicians and Surgeons.

The following Diploma has been conferred:

D.T.M. & H.—Helme, A. C. de B.

British College of Obstetricians and Gynæcologists.

The following has been admitted a **Member**: Gwillim, C. M.

Conjoint Examination Board.

Pre-Medical Examination, July, 1934.

Chemistry.—Daniel, H. G., Jackson, C. A., Williams, G. T. S.
Physics.—Daniel, H. G.
Biology.—Bell, C. J., Conte-Mendoza, H., Mayberry, W. M., Moseby, W. G., Rutland, F. A.

First Examination, July, 1934.

Anatomy.—Cane, C. S., Flavell, G., Halper, N. H., Jackson, K. V., Joyce, J. B., Kershaw, R., Richards, G. A., Schenker, A. W., Thompson, J. R. O., Witt, R. C.
Physiology.—Cane, C. S., Coates, H., Flavell, G., Joyce, J. B., Mundy, N. B., Richards, G. A., Schenker, A. W., Stevenson, R. Y., Thompson, J. R. O., Williams, W. R.
Pharmacology.—Ali, M. M., Gray, G., Maidlow, W. M., Saltman, P. B. L., Stevenson, R. Y., Sugden, K. H., White, D. M.

Final Examination, July, 1934.

The following students have completed the Examinations for the Diplomas of M.R.C.S., L.R.C.P., and have had the Diplomas conferred on them :

Byer, I., Clarke, R. F., Collingwood, S. G., Culshaw, F. H., Davies, D. L. L., Dias, N. J., Fulton, I. N., Harris, E. E., Howell, T. H., Hughes, J., Jenkins, J. R. R., Jones, D. M., Kirkwood, R. M., Laverick, J. V., Livingstone, F. D. M., MacCarthy, D., McCoy, D. P., Masterman, E. B. Z., Purnell, R. H., Ross, W. T., Sivolella, N. W., Stallard, A. F., Walch, R. C., Weiner, B.

CHANGES OF ADDRESS.

DAHNE, S. F. LOGAN, "Meadowcroft", Conisboro' Avenue, Caversham.
DE LABILLIERE, Surg.-Lt. C. D. D., R.N., H.M.S. "Leith", New Zealand Waters, c/o G.P.O., London.
ELGOOD, C., 18, Lungarno Acciaioli, Florence.
LLOYD WILLIAMSON, J. C. F., 34, The Drive, Hove, Sussex. (Tel. Hove 1623.)
MAITLAND, C. T., Lethington, Vicarage Way, Gerrards Cross, Bucks.
MAXWELL, J. PRESTON, 14. Barrow Road, Cambridge.
SHAW, WILFRED, 109, Harley Street, W. 1. (Tel. Welbeck 7395.)
WALKER, F. H. AITKEN, 16, Westcote Road, Reading, Berks. (Tel. Reading 2390.)

APPOINTMENTS.

LLOYD WILLIAMSON, J. C. F., M.B., B.Chir.(Cantab.), F.R.C.S., appointed Honorary Surgeon to Horley and District Cottage Hospital, and Honorary Surgical Registrar to the Royal Sussex County Hospital, Brighton.
WINDLE, R. W., M.D.(Cantab.)., appointed Honorary Medical Registrar to the Royal Sussex County Hospital, Brighton.

BIRTHS.

ALDRIDGE.—On July 17th, 1934, at 20, Devonshire Place, to Betty, wife of Dr. J. S. Aldridge—a son.
BENNETT.—On July 25th, 1934, at Wilmslow, to Dorothy Margaret, wife of Dr. Randle Bennett—a son.
BRIGG.—On August 22nd, 1934, at Chipping Norton, Oxon, to Kitty (*née* Jackson), wife of D. A. Brigg, M.B.—a daughter.
CHAMBERS.—On August 9th, 1934, at 36, Bolton Gardens, S.W., to Senga, wife of Guy Chambers, F.R.C.S.—a son.
DONALDSON PERROTT.—On July 19th, 1934, in London, to Louie, wife of Dr. G. F. Donaldson Perrott—a daughter.
MARSHALL.—On July 3rd, 1934, at 20, Devonshire Place, W. 1, to Betty (*née* Rowlands), wife of Dr. R. M. Marshall, of Brockenhurst—a daughter.
SCOTT.—On July 24th, 1934, to Daphne, wife of Dr. Ronald Bodley Scott, 11, Poole Road, Bournemouth—a daughter.
VISICK.—On July 5th, 1934, at 25, High Petergate, York, to Christine and Arthur Visick—a son.
WHITE.—On August 19th, 1934, at Green Trees, Bassett, Southampton, to Alice (*née* Tait), wife of Dr. H. Oakley White—a son.

MARRIAGES.

MCBRIDE—FREEMAN.—On July 28th, 1934, at Christ Church, Lancaster Gate, Dr. John Richard Best McBride to Kathleen Beryl Howard Freeman (Kathleen Wike).
TRACEY—ROSE.—On July 28th, 1934, at St. Mary's, Attleborough, Norfolk, by Rev. H. M. Mills, John Brodrick Tracey, B.A., B.Chir., sixth son of the late Dr. H. Eugene Tracey and Mrs. Tracey, of Willand, Devon, to Mabel Joy, only daughter of Dr. and Mrs. E. F. Rose, of Attleborough.

SILVER WEDDINGS.

HUGO—NEWTON.—On July 7th, 1909, at St. John's Church, Dalhousie, by Rev. G. A. Campbell-Bell, Major E. V. Hugo, I.M.S., to Helen Frances, third daughter of Mr. E. J. Newton, Peterborough. Present address : 75, Queen's Road, Richmond, Surrey.
MOORSHEAD—WINCHESTER.—On July 1st, 1909, at Westcliffe Baptist Church, Bournemouth, Robert Fletcher Moorshead, M.B., F.R.C.S., to Gertrude, eldest daughter of the late Dr. Henry Winchester, of Fort Augustus, Inverness-shire.

DEATHS.

COLLINS.—On June 17th, 1934, Octavius Augustus Glasier Collins, M.R.C.S., L.R.C.P., of Bath.
CROSS.—On July 14th, 1934, at his residence, Clay Point, Flushing, Falmouth, Cornwall, William Foster Cross, M.R.C.S.(Eng.), L.R.C.P.(Lond.), aged 61.
DAHNE.—On July 28th, 1934, at Pendine, Carmarthenshire, Constant Gustav Logan Dahne, L.S.A.
FISHER.—On August 16th, 1934, at Maidstone, Dr. Henry Holdrich Fisher, aged 72.
HEATH.—On July 13th, 1934, at 53, York Terrace, N.W. 1, Charles Joseph Heath, F.R.C.S., President of the Wiidfowlers Association, and late of 34, Devonshire Place, W. 1.
HUTT.—On August 20th, 1934, at 35, Ennerdale Road, Kew Gardens, Cecil William Hutt, M.A., M.D., B.Ch., M.R.C.P., D.P.H.(Oxon.), aged 54.
JAMES.—On July 6th, 1934, at 38, Friends Road, Croydon (formerly of 54, Park Lane), as the result of gas poisoning incurred during the Great War, while attached to the 2nd Batt., Seaforth Highlanders, Philip William James, M.C., M.D., eldest son of the late Canon Mark James, of Hamilton, Bermuda.
JENNINGS.—On July 5th, 1934, at 13, John Street, Mayfair, John Frederick Jennings, M.B.(Lond.), F.R.C.S.
MAWER.—On July 1st, 1934, Percy Uvedale Mawer, M.R.C.S., L.R.C.P., of 11, Wimpole Street.
RANKING.—On July 14th, 1934, at Caversham, Reading, George Spiers Alexander Ranking, C.M.G., Lt.-Col. (retired), I.M.S.
ROSS.—On July 4th, 1934, at The Crescent, 346, Kingsland Road, E. 8, David Ross, M.D., aged 62.
SCORER.—On July 1st, 1934, at St. Cuthbert's, Christchurch Road, Bournemouth, after a long illness patiently borne, Frank Scorer, M.B.E., M.R.C.S., L.R.C.P.
WICKHAM.—On August 16th, 1934, at Cobbles, Sutton Scotney, George William Wickham, L.R.C.P., L.R.C.S., L.R.F.P.S., L.S.A.

NOTICE.

All Communications, Articles, Letters, Notices, or Books for review should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, *St. Bartholomew's Hospital, E.C. 1.*

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